

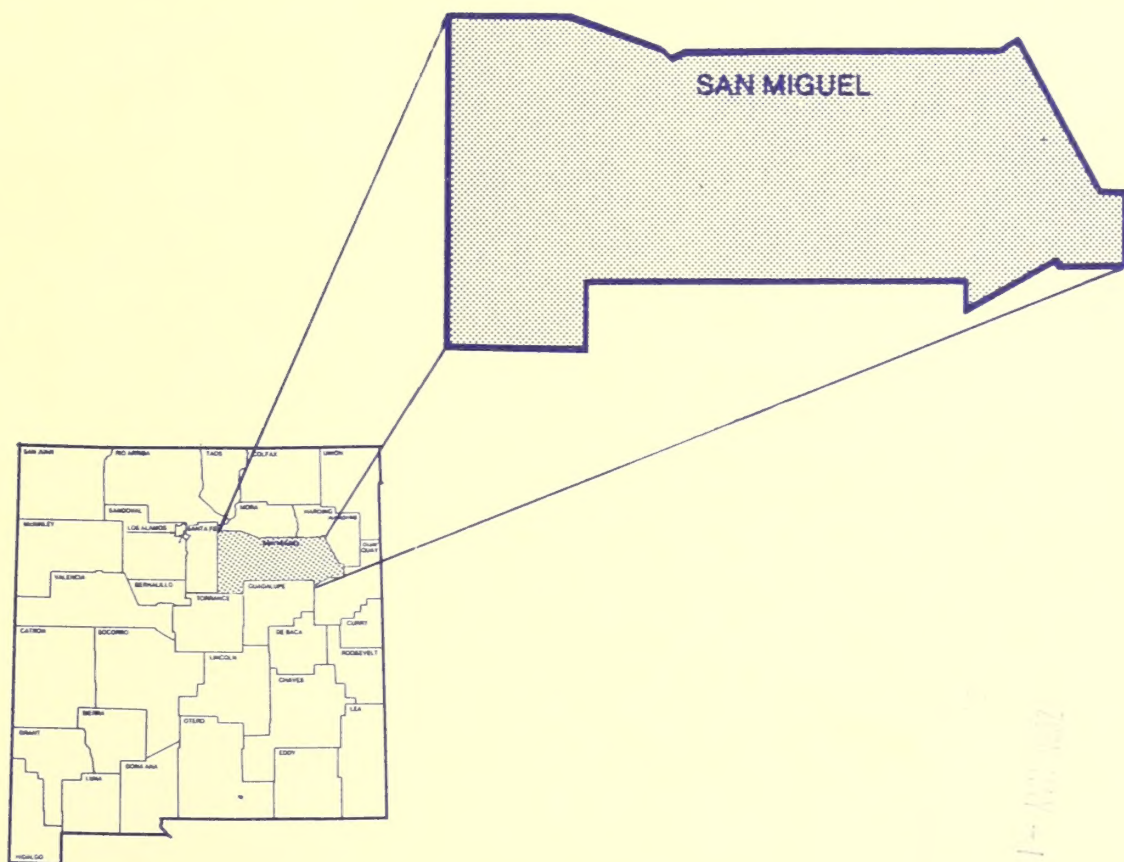
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# FOREST AREA AND TIMBER RESOURCE STATISTICS FOR SAN MIGUEL COUNTY, NEW MEXICO, 1975

MICHAEL K. BARRETT  
and  
DOROTHY G. SHUPE



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## RESEARCH SUMMARY

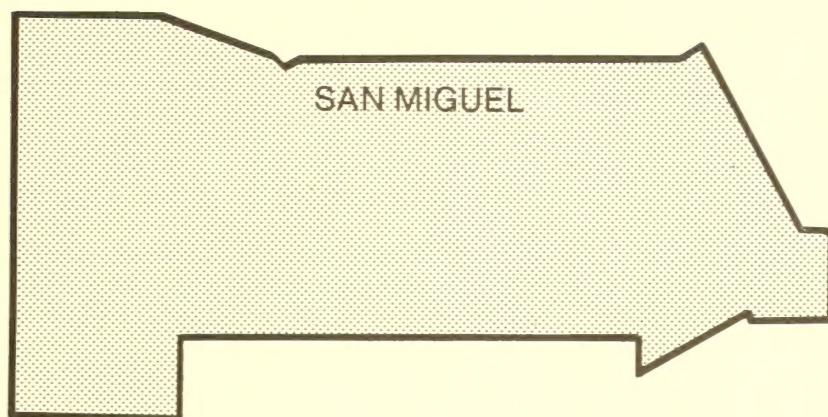
Presents land area, commercial timberland area, timber inventory, and growth and mortality data based on Resources Evaluation standards.

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## San Miguel County



## INTRODUCTION

A comprehensive timber resource study was conducted on State and private lands in San Miguel County, New Mexico (fig. 1), from 1974 to 1975 by the New Mexico Department of State Forestry in cooperation with the Division of State and Private Forestry, Forest Service, Region 3, and the Intermountain Forest and Range Experiment Station.

The total land area in San Miguel County is 3,034,432 acres (1,227,996 hectares). The Forest Service manages 339,018 acres (137,196 hectares) and the Bureau of Land Management 46,488 acres (18,813 hectares). The remaining 2,648,926 acres (1,071,987 hectares) are in State, private, and other ownership. The data presented here are for State, private, and other lands (miscellaneous Federal, and County and municipal lands).

Highlights show the area of commercial timberland in comparison to total forest land area, and the distribution of this area by forest type, stand-size class, and site class. Discussions of the data reliability and terminology are included. These two items should be reviewed carefully when using this information.

# NEW MEXICO

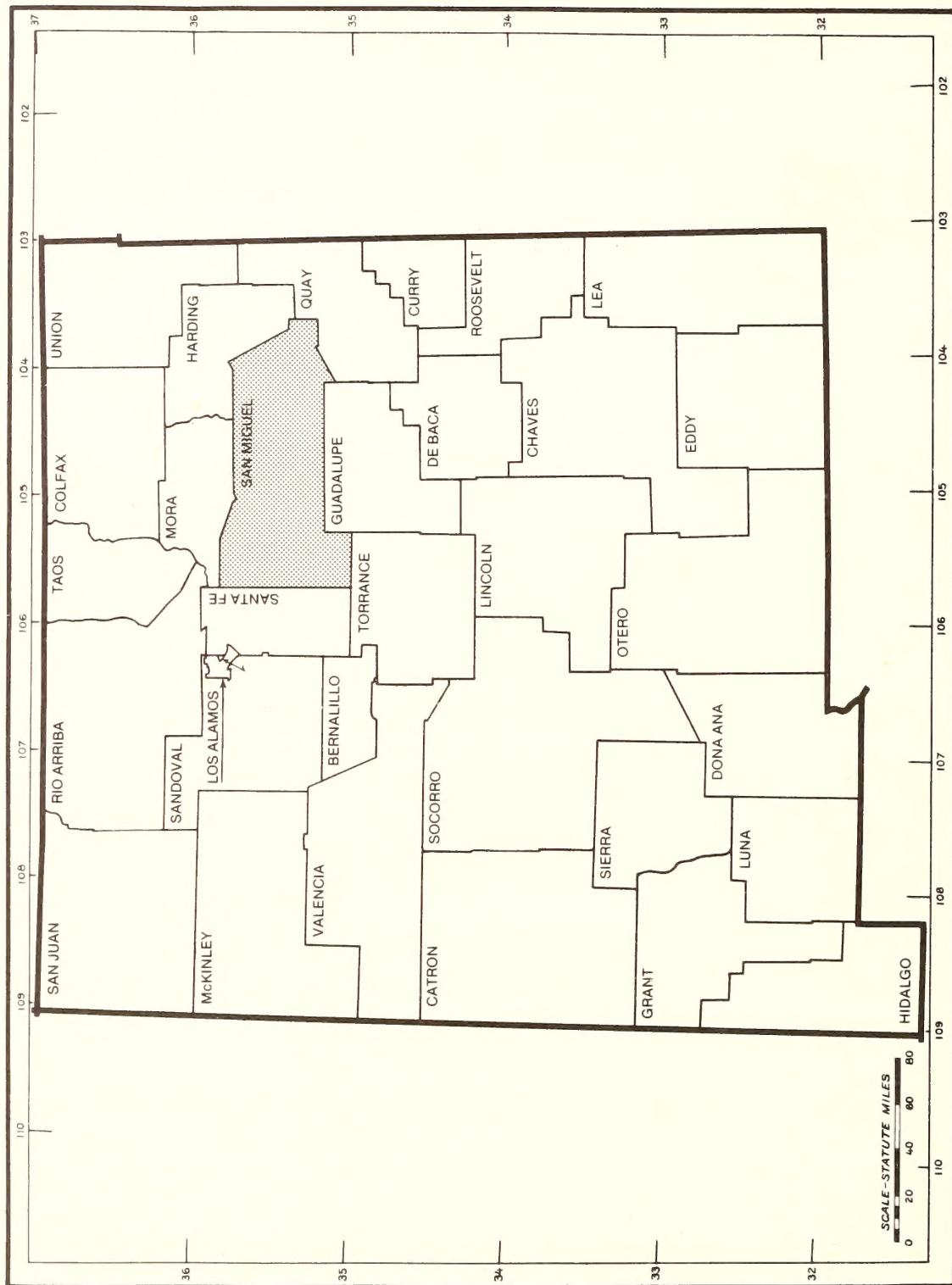


Figure 1.--San Miguel County, New Mexico

# HIGHLIGHTS

## Area

- The forest land area is 885,815 acres (358,478 hectares), or 33 percent of the total State and private land area in the County.
- Of the forest land, 77,682 acres (31,437 hectares), or 9 percent are classified as commercial timberland.
- Private ownership accounts for 75,436 acres (30,528 hectares), or 97 percent of the commercial timberland.
- The predominant forest type is ponderosa pine, which occupies 71 percent of the commercial timberland. The remaining area consists of Douglas-fir, white fir, pinyon-juniper<sup>1</sup>, limber pine, and aspen forest types.
- Seventy-two percent of the commercial timberland is sawtimber stands; pole-timber stands occupy 18 percent; the remaining 10 percent is in sapling and seedling stands or nonstocked.
- Nearly 70 percent of the commercial timberland is in the 20 to 49 cubic-foot productivity class.

## Inventory

- Growing stock volume amounts to 64,396 thousand cubic feet (1,823 thousand cubic meters) with the major portion, about 70 percent, in softwood sawtimber trees.
- Rough, rotten, and salvable dead trees comprised 1,901 thousand cubic feet (54 thousand cubic meters), or about 3 percent, of the total sound wood volume.
- About 90 percent of the 217,838 thousand board feet<sup>2</sup> of sawtimber volume is in sawtimber less than 21 inches d.b.h.
- Ponderosa pine and Douglas-fir together make up about 76 percent of the growing stock volume and 79 percent of the sawtimber volume. Species sharing the remaining percentage are white fir, limber pine, Engelmann spruce, subalpine fir, pinyon pine, juniper; aspen and other hardwoods. Pinyon and juniper account for less than two-tenths of 1 percent of the total growing stock volume. Six percent of this pinyon and juniper volume is in State ownership.
- About 97 percent of both the total growing stock volume and the total sawtimber volume is privately owned.

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<sup>1</sup>The area occupied by pinyon-juniper forest type classified as commercial is so classified because the site index for other associated species on these stands (usually ponderosa pine or Douglas-fir) was high enough to indicate a site potential productivity level exceeding 20 cubic feet per acre per year average annual growth, and nonstockable indicators were not present in sufficient quantities to lower the yield capability below 20 cubic feet per acre per year. Although pinyon/juniper usually occurs on unproductive forest land, when it occurs in mixtures with other species on productive sites, it is reported in the commercial timberland statistics.

<sup>2</sup>International 1/4-inch rule.

## Growth and Mortality

- Net annual growth of growing stock totals 1,943,218 cubic feet (55,026 cubic meters) with 86 percent occurring in softwood species; mainly ponderosa pine, Douglas-fir, and white fir. Growth and mortality were not measured for pinyon and juniper trees.
- Almost 98 percent of the total net growth is on private land.
- The annual mortality of 273,179 cubic feet (7,736 cubic meters) offsets 12 percent of the gross annual growth.
- Fire causes 76 percent of the mortality. Weather, disease, suppression, and other unknown factors account for the remainder.
- Nearly 97 percent of the mortality occurs on private lands.
- Nearly 70 percent of the mortality occurs in ponderosa pine.
- Although hardwoods make up only about 7 percent of the total growing stock volume, they account for over 9 percent of the mortality.

## DATA RELIABILITY

Individual cells within tables should be used with caution. Some are based on very small sample sizes, and so result in high sampling errors. The standard error percents shown in tables 1 and 2 were calculated at the 67 percent confidence level.

Table 1.--Area of forest land and percent standard error for San Miguel County, 1975

Item	Softwood types		Hardwood types		All types	
		Percent		Percent		Percent
	Acres	standard	Acres	standard	Acres	standard
		error		error		error
Commercial timberland	76,581	7.2	1,101	46.1	77,682	7.2
Other forest land:						
Unproductive reserved	1,763	25.1	--	0	1,763	25.1
Unproductive nonreserved	785,276	10.7	21,094	15.7	806,370	10.4

Table 2.--Net volume and net annual growth and annual mortality of growing stock and sawtimber on commercial timberland, with percent standard error for San Miguel County, 1975

Item	Softwoods		Hardwoods		All species	
		Percent		Percent		Percent
	Volume	standard	Volume	standard	Volume	standard
		error		error		error
Net volume:						
Growing stock (M cubic feet)	60,047	9.1	4,349	32.3	64,396	9.6
Sawtimber (M board feet <sup>1</sup> )	211,741	10.2	6,097	48.6	217,838	10.4
Net annual growth:						
Growing stock (cubic feet)	1,667,153	14.8	276,065	47.2	1,943,218	15.1
Sawtimber (board feet <sup>1</sup> )	6,886,629	16.4	153,820	2100.0	7,040,449	16.7
Annual mortality:						
Growing stock (cubic feet)	247,597	71.0	25,582	77.6	273,179	64.7
Sawtimber (board feet <sup>1</sup> )	1,077,008	72.5	141,805	77.4	1,218,813	64.6

<sup>1</sup>International 1/4-inch rule.

<sup>2</sup>Computed standard error exceeds 100 percent.



# TERMINOLOGY AND DATA TABLES

The following terminology section contains definitions that are relevant to the timber resource data presented in this resource bulletin. Forest area and timber resource data for San Miguel County, New Mexico, are displayed in tables 3 through 23.

## TERMINOLOGY

### Land

Bureau of the Census.--The area of dry land and land temporarily or partly covered by water, such as marshes, swamps, and river flood plains; streams, sloughs, estuaries, and canals less than 1/8 of a statute mile in width; and lakes, reservoirs, and ponds less than 40 acres in area.

### Water

Census water.--As defined by the Bureau of the Census, streams, sloughs, estuaries, and canals more than 1/8 of a statute mile in width; and lakes, reservoirs, and ponds more than 40 acres in area.

Noncensus water.--The same as defined by the Bureau of the Census, except minimum width of streams, etc., is 120 feet and minimum size of lakes, etc., is 1 acre.

### Land Use Classes

Forest land.--Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use.

Commercial timberland.--Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization. (Note: Areas qualifying have the capability of producing in excess of 20 cubic feet per acre per year of industrial wood management. Currently inaccessible and inoperable areas are included, except when the areas involved are small and unlikely to become suitable for production of industrial wood in the foreseeable future.)

Productive-reserved forest land.--Forest land sufficiently productive to qualify as commercial timberland, but withdrawn from timber utilization through statute, administrative designation, or exclusive use for Christmas tree production.

Other forest land.--(1) Forest land incapable of producing 20 cubic feet per acre of industrial wood under management, because of adverse site conditions; (2) unproductive-reserved forest land.

Nonforest land.--Land that has never supported forests and lands formerly forested where use for timber management is precluded by development for other use.

### Public Ownership Classes

National Forest land.--Federal lands legally designated as National Forest or purchase units, and other lands under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III lands.

Bureau of Land Management lands.--Federal lands administered by the Bureau of Land Management.

Indian lands.--Tribal lands held in fee by the Federal Government, but administered for Indian tribal groups and Indian trust allotments.

State lands.--Lands owned by States, or lands leased to these governmental units for 50 years or more.

## **Private Ownership Classes**

County and municipal lands.--Lands owned by counties and local public agencies or municipalities, or lands leased to these governmental units for 50 years or more.

Forest industry lands.--Lands owned by companies or individuals operating wood-using plants.

Farmer-owned lands.--Lands owned by farm operators. (Note: These exclude lands leased by farm operators from nonfarm owners, such as railroad companies and States.)

Miscellaneous Federal lands.--Federal lands other than the following: (1) National Forest lands; (2) lands administered by the Bureau of Land Management; and (3) Indian lands.

Miscellaneous private lands.--Privately owned lands other than forest industry and farmer-owned lands.

## **Forest Type and Tree Species**

Forest types.--A classification of forest land based upon the species forming a plurality of live-tree stocking.

Forest trees.--Woody plants having a well-developed stem and usually more than 12 feet in height at maturity.

Commercial species.--Tree species presently or prospectively suitable for industrial wood products.

Softwoods.--Coniferous trees, usually evergreen, having needles or scalelike leaves.

Hardwoods.--Dicotyledonous trees, usually broad-leaved and deciduous.

## **Area Condition Classes**

Stocking.--Stocking is an effort to express the extent to which growing space is effectively utilized by present or potential growing stock trees of commercial species. "Percent of stocking" is synonymous with "percentage of growing space occupied" and means the ratio of actual stocking to full stocking for comparable sites and stands. Basal area is used as a basis for measuring stocking.

"Stocking percentages" express current area occupancy in relation to specified standards for full stocking based on number, size, and spacing of trees considered necessary to fully utilize the forest land.

Full utilization of the site is assumed to occur over a range of basal area. As an interim guide, 60 percent of the normal yield table values has been used to establish the lower limit of the range which represents full-site occupancy. This is called 100-percent stocking. The upper limit of full stocking has been set at 132 percent. Sites with less than 100-percent stocking represent understocking with less than full-size occupancy. Overstocking is characterized by sites with over 133-percent stocking.

Class 10.--Area fully stocked (100-132 percent) with desirable trees and not overstocked (133 percent or more).



Class 20.--Area fully stocked with desirable trees, but overstocked with all live trees.

Class 30.--Areas medium to fully stocked (60-99 percent) with desirable trees and with less than 30 percent of the area controlled by other trees and (or) inhibiting vegetation or surface conditions that will prevent occupancy by desirable trees.

Class 40.--Areas medium to fully stocked with desirable trees and with 30 percent or more of the area controlled by other trees and (or) conditions that ordinarily prevent occupancy by desirable trees.

Class 50.--Areas poorly stocked (16.7-59 percent) with desirable trees, but fully stocked with growing stock trees.

Class 60.--Areas poorly stocked with desirable trees, but with medium to full stocking of growing stock trees.

Class 70.--Areas nonstocked (less than 16.7 percent) or poorly stocked with desirable trees, and poorly stocked with growing stock trees.

Class 80.--Low-risk old-growth stands.

Class 90.--High-risk old-growth stands.

Nonstocked.--Areas less than 16.7 percent stocked with growing stock trees.

## **Class of Timber**

Growing stock trees.--Live trees of commercial species qualifying as desirable or acceptable trees. (Note: Excludes rough, rotten, and dead trees.)

Desirable trees.--Growing stock trees (a) having no serious defect in quality limiting present or prospective use for timber products; (b) of relatively high vigor; and (c) containing no pathogens that may result in death or serious deterioration before rotation age.

Acceptable trees.--Growing stock trees that meet specified standards of size and quality, but not qualifying as desirable trees.

Rough trees.--(1) Live trees of commercial species that do not contain at least one 12-foot saw log or two noncontiguous saw logs, each 8 feet long or longer, now or prospectively, and (or) do not meet Rocky Mountain Regional specifications for freedom from defect primarily because of roughness or poor form; (2) all live trees of non-commercial species.

Rotten trees.--Live trees that do not contain at least one 12-foot saw log or two noncontiguous saw logs, each 8 feet long or longer, now or prospectively, and (or) do not meet Rocky Mountain Regional specifications for freedom from defect primarily because of rot; that is, when more than 50 percent of the cull volume (cubic-foot basis) in a tree is rotten.

Cull.--Portions of a tree that are unusable for industrial wood products because of rot, form, or other defect.

Salvable dead trees.--Standing or down dead trees that are considered merchantable by Rocky Mountain Regional standards.

Mortality trees.--Trees formerly growing stock dying from natural causes during a specified period, usually 1 year.

Saw-log portion.--That part of the bole of sawtimber trees between the stump and the saw-log top. A 1-foot stump is used.

Upper-stem portion.--That part of the bole of sawtimber trees above the saw-log top to a minimum top diameter of 4.0 inches outside bark or to the point where the central stem breaks into limbs, whichever occurs first.

## **Tree Size Classes**

Seedlings.--Live trees less than 1.0 inch in diameter at breast height.

Saplings.--Trees 1.0-4.9 inches in diameter at breast height.

Poletimber trees.--Trees at least 5.0 inches in d.b.h., but smaller than sawtimber size.

Sawtimber trees.--Trees exceeding poletimber size. In the Intermountain States, the minimum d.b.h. for softwood sawtimber is 9.0 inches, and 11.0 inches for hardwoods.

## **Volume**

Net volume.--Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.

Growing stock volume.--Net volume in cubic feet of live sawtimber trees and live poletimber trees from stump to a minimum 4.0-inch top (of central stem) outside bark. Net volume equals gross volume less deduction for rot and missing bole sections.

Sawtimber volume.--Net volume in board feet of sawtimber trees of commercial species. Net volume equals gross volume less deduction for rot, sweep, crook, and other defects that affect use for lumber.

## **Growth and Mortality**

Net annual growth.--The increase in net growing stock volume of a specified size class for a specific year. (Note: Components of net annual growth include the increment in net volume of trees at the beginning of the specific year surviving to its end, plus net volume of trees reaching the size class during the year, minus the net volume of trees that died during the year, minus the net volume of trees that became rough or rotten trees during the year.)

Mortality.--Number or sound-wood volume of growing stock trees dying from natural causes during a specified period.

## **Site**

Site class.--A classification of forest land in terms of inherent capacity to grow crops of industrial wood.

Site classifications are based upon the mean net annual growth of growing stock (not including thinnings or mortality loss) attainable at culmination of mean net annual growth over age. Height-age relationships are usually used as indicators of the specified volume-site class.

## **Stand-Size Classes**

Sawtimber stands.--Stands at least 16.7 percent stocked with growing stock trees, with half or more of total stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Poletimber stands.--Stands at least 16.7 percent stocked with growing stock trees in which half or more of this stocking is in poletimber and (or) sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

Sapling-seedling stands.--Stands at least 16.7 percent stocked with growing stock trees in which more than half of the stocking is saplings and (or) seedlings.

Nonstocked land.--Commercial timberland less than 16.7 percent stocked with growing stock trees.

## FOREST SURVEY TABLES

Table 3.--*Total area in San Miguel County by ownership class, 1975*

Ownership class	Acres	Hectares
National Forest	339,018	137,196
Bureau of Land Management	46,488	18,813
State	179,300	72,561
Private and other	2,469,626	999,426
Total land area	3,034,432	1,227,996
Census water	16,512	6,682
Gross area <sup>1</sup>	3,050,944	1,234,678

<sup>1</sup>U.S. Bureau of the Census, land and water area of the United States, 1970.

Table 4.--*Land area in San Miguel County by major land class and ownership class, 1975*

Land class	Ownership class			
	State		Private	
	Acres	Hectares	Acres	Hectares
Commercial timberland	2,246	909	75,436	30,528
Productive reserved	--	--	--	--
Other forest land:				
Unproductive reserved	1,607	650	156	63
Unproductive nonreserved	85,216	34,486	721,154	291,842
Total forest land	89,069	36,045	796,746	322,433
Nonforest land	90,231	36,516	1,672,880	676,993
Total land area	179,300	72,561	2,469,626	999,426

Table 5.--Area of commercial timberland in San Miguel County by forest type, stand-size class, and site class, State owned, 1975

Forest type and stand-size class	Site class					Total acres
	165+	120-164	85-119	50-84	20-49	
- - - - - Acres - - - - -						
Douglas-fir:						
Sawtimber	--	--	19	107	129	255
Poletimber	--	--	--	68	--	68
Sapling and seedling	--	--	--	26	--	26
Nonstocked	--	--	--	--	--	--
Total	--	--	19	201	129	349
Ponderosa pine:						
Sawtimber	--	--	--	324	814	1,138
Poletimber	--	--	--	--	304	304
Sapling and seedling	--	--	--	--	84	84
Nonstocked	--	--	--	--	42	42
Total	--	--	--	324	1,244	1,568
Limber pine:						
Sawtimber	--	--	--	42	--	42
Poletimber	--	--	--	--	--	--
Sapling and seedling	--	--	--	--	--	--
Nonstocked	--	--	--	--	--	--
Total	--	--	--	42	--	42
White fir:						
Sawtimber	--	--	54	23	23	100
Poletimber	--	--	--	--	--	--
Sapling and seedling	--	--	--	--	--	--
Nonstocked	--	--	--	--	--	--
Total	--	--	54	23	23	100
Pinyon-juniper:						
Sawtimber	--	--	--	--	22	22
Poletimber	--	--	--	--	--	--
Sapling and seedling	--	--	--	--	165	165
Nonstocked	--	--	--	--	--	--
Total	--	--	--	--	187	187
Total softwoods:						
Sawtimber	--	--	73	496	988	1,557
Poletimber	--	--	--	68	304	372
Sapling and seedling	--	--	--	26	249	275
Nonstocked	--	--	--	--	42	42
Total	--	--	73	590	1,583	2,246
Aspen:						
Sawtimber	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--
Sapling and seedling	--	--	--	--	--	--
Nonstocked	--	--	--	--	--	--
Total	--	--	--	--	--	--
All types:						
Sawtimber	--	--	73	496	988	1,557
Poletimber	--	--	--	68	304	372
Sapling and seedling	--	--	--	26	249	275
Nonstocked	--	--	--	--	42	42
Total	--	--	73	590	1,583	2,246

Table 6.--Area of commercial timberland in San Miguel County by forest type, stand-size class, and site class, private owned, 1975

Forest type and stand-size class	Site class					Total acres
	165+	120-164	85-119	50-84	20-49	
- - - - - Acres - - - - -						
Douglas-fir:						
Sawtimber	--	--	1,174	3,279	4,319	8,772
Poletimber	--	--	--	2,242	--	2,242
Sapling and seedling	--	--	--	1,128	--	1,128
Nonstocked	--	--	--	--	--	--
Total	--	--	1,174	6,649	4,319	12,142
Ponderosa pine:						
Sawtimber	--	--	--	10,868	27,301	38,169
Poletimber	--	--	--	--	11,023	11,023
Sapling and seedling	--	--	--	--	3,340	3,340
Nonstocked	--	--	--	--	1,113	1,113
Total	--	--	--	10,868	42,777	53,645
Limber pine:						
Sawtimber	--	--	--	1,113	--	1,113
Poletimber	--	--	--	--	--	--
Sapling and seedling	--	--	--	--	--	--
Nonstocked	--	--	--	--	--	--
Total	--	--	--	1,113	--	1,113
White fir:						
Sawtimber	--	--	2,210	1,053	1,053	4,316
Poletimber	--	--	--	--	--	--
Sapling and seedling	--	--	--	--	--	--
Nonstocked	--	--	--	--	--	--
Total	--	--	2,210	1,053	1,053	4,316
Pinyon-juniper:						
Sawtimber	--	--	--	--	1,041	1,041
Poletimber	--	--	--	--	--	--
Sapling and seedling	--	--	--	--	2,078	2,078
Nonstocked	--	--	--	--	--	--
Total	--	--	--	--	3,119	3,119
Total softwoods:						
Sawtimber	--	--	3,384	16,313	33,714	53,411
Poletimber	--	--	--	2,242	11,023	13,265
Sapling and seedling	--	--	--	1,128	5,418	6,546
Nonstocked	--	--	--	--	1,113	1,113
Total	--	--	3,384	19,683	51,268	74,335
Aspen:						
Sawtimber	--	--	--	734	--	734
Poletimber	--	--	--	--	367	367
Sapling and seedling	--	--	--	--	--	--
Nonstocked	--	--	--	--	--	--
Total	--	--	--	734	367	1,101
All types:						
Sawtimber	--	--	3,384	17,047	33,714	54,145
Poletimber	--	--	--	2,242	11,390	13,632
Sapling and seedling	--	--	--	1,128	5,418	6,546
Nonstocked	--	--	--	--	1,113	1,113
Total	--	--	3,384	20,417	51,635	75,436



Table 7.--Area of commercial timberland in San Miguel County by forest type, stand-size class, and site class, summary--State and private, 1975

Forest type and stand-size class	Site class					Total acres
	165+	120-164	85-119	50-84	20-49	
- - - - - Acres - - - - -						
Douglas-fir:						
Sawtimber	--	--	1,193	3,386	4,448	9,027
Poletimber	--	--	--	2,310	--	2,310
Sapling and seedling	--	--	--	1,154	--	1,154
Nonstocked	--	--	--	--	--	--
Total	--	--	1,193	6,850	4,448	12,491
Ponderosa pine:						
Sawtimber	--	--	--	11,192	28,115	39,307
Poletimber	--	--	--	--	11,327	11,327
Sapling and seedling	--	--	--	--	3,424	3,424
Nonstocked	--	--	--	--	1,155	1,155
Total	--	--	--	11,192	44,021	55,213
Limber pine:						
Sawtimber	--	--	--	1,155	--	1,155
Poletimber	--	--	--	--	--	--
Sapling and seedling	--	--	--	--	--	--
Nonstocked	--	--	--	--	--	--
Total	--	--	--	1,155	--	1,155
White fir:						
Sawtimber	--	--	2,264	1,076	1,076	4,416
Poletimber	--	--	--	--	--	--
Sapling and seedling	--	--	--	--	--	--
Nonstocked	--	--	--	--	--	--
Total	--	--	2,264	1,076	1,076	4,416
Pinyon-juniper:						
Sawtimber	--	--	--	--	1,063	1,063
Poletimber	--	--	--	--	--	--
Sapling and seedling	--	--	--	--	2,243	2,243
Nonstocked	--	--	--	--	--	--
Total	--	--	--	--	3,306	3,306
Total softwoods:						
Sawtimber	--	--	3,457	16,809	34,702	54,968
Poletimber	--	--	--	2,310	11,327	13,637
Sapling and seedling	--	--	--	1,154	5,667	6,821
Nonstocked	--	--	--	--	1,155	1,155
Total	--	--	3,457	20,273	52,851	76,581
Aspen:						
Sawtimber	--	--	--	734	--	734
Poletimber	--	--	--	--	367	367
Sapling and seedling	--	--	--	--	--	--
Nonstocked	--	--	--	--	--	--
Total	--	--	--	734	367	1,101
All types:						
Sawtimber	--	--	3,457	17,543	34,702	55,702
Poletimber	--	--	--	2,310	11,694	14,004
Sapling and seedling	--	--	--	1,154	5,667	6,821
Nonstocked	--	--	--	--	1,155	1,155
Total	--	--	3,457	21,007	53,218	77,682



Table 8.--Area of commercial timberland in San Miguel County  
by stand volume and ownership classes, 1975

Stand volume per acre <sup>1</sup>	Ownership class		
	State	Private	State and private
Acres			
Less than 1,500 board feet	1,975	65,858	67,833
1,500 to 4,999 board feet	271	9,578	9,849
5,000 to 9,999 board feet	--	--	--
10,000 board feet or more	--	--	--
All classes	2,246	75,436	77,682

<sup>1</sup> International 1/4-inch rule.

Table 9.--Area of commercial timberland in San Miguel County by forest type and area condition class; State and private, 1975

Forest type	Area condition class										Nonstocked	All classes
	10	20	30	40	50	60	70	80	90			
	Acres											Hectares
Douglas-fir	--	--	5,617	--	2,310	3,502	1,062	--	--	--	12,491	5,055
Ponderosa pine	--	--	1,155	--	11,510	24,598	16,795	--	--	1,155	55,213	22,344
Limber pine	--	--	--	--	1,155	--	--	--	--	--	1,155	467
White fir	--	--	1,154	--	1,076	2,186	--	--	--	--	4,416	1,787
Pinyon-juniper	--	--	--	--	--	--	3,306	--	--	--	3,306	1,338
Total softwoods	--	--	7,926	--	16,051	30,286	21,163	--	--	1,155	76,581	30,991
Aspen	--	--	--	--	367	367	367	--	--	--	1,101	446
All types	--	--	7,926	--	16,418	30,653	21,530	--	--	1,155	77,682	31,437

Table 10.--Area of productive reserved and other forest land in San Miguel County by land class, ownership class, and forest type, 1975

Land class	Forest type				All types
	Ponderosa : pine	Pinyon- juniper	Mixed : softwoods	Mixed : hardwoods	
	----- Acres -----				Hectares -
Productive reserved:					
State	--	--	--	--	--
Private	--	--	--	--	--
Other forest land:					
Unproductive nonreserved:					
State	42	767	82,949	1,458	85,216
Private	1,113	16,505	683,900	19,636	721,154
					34,486
Unproductive reserved:					
State	--	--	1,607	--	1,607
Private	--	--	156	--	156
					650
Total land area:					63
State	42	767	84,556	1,458	86,823
Private	1,113	16,505	684,056	19,636	721,310
					291,905
Total acres	1,155	17,272	768,612	21,094	808,133
					--
Total hectares	467	6,989	311,048	8,537	--
					327,041

Table 11.--Number of growing stock trees on commercial timberland in San Miguel County by species and diameter class; State and private, 1975

Species	Diameter class (inches at breast height)															
	1.0- 2.9	3.0- 4.9	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0+ 30.9	All classes
	----- Thousand trees -----															
Douglas-fir	2,025	892	595	310	271	131	77	51	16	11	3	3	2	--	1	4,388
Ponderosa pine	5,205	4,071	2,823	2,073	1,185	624	382	136	76	10	12	7	4	--	1	16,609
Limer pine	480	206	109	17	16	19	5	23	11	6	3	2	1	--	--	898
Subalpine fir	--	--	43	30	--	6	--	--	--	2	--	--	--	--	--	81
White fir	2,321	508	313	257	106	79	32	32	26	17	8	2	1	1	1	3,704
Engelmann spruce	68	55	25	19	11	--	12	2	4	1	1	1	--	--	--	199
Pinyon/juniper	--	32	34	29	9	--	--	--	--	--	--	--	--	--	--	104
Total softwoods	10,099	5,764	3,942	2,735	1,598	859	508	244	133	47	27	15	8	1	3	25,983
Aspen	215	225	680	140	68	23	16	6	2	1	--	--	--	--	--	1,376
Other hardwoods	139	236	30	30	--	--	--	--	--	--	--	--	--	--	--	435
Total hardwoods	354	461	710	170	68	23	16	6	2	1	--	--	--	--	--	1,811
All species	10,453	6,225	4,652	2,905	1,666	882	524	250	135	48	27	15	8	1	3	27,794

Table 12.--Number of cull and salvable dead trees on commercial timberland in San Miguel County by ownership class, and softwoods and hardwoods, 1975

Ownership class and species group	Sound		Cull trees		Salvable	
			Rotten	Total	dead trees	
----- Thousand trees -----						
State:						
Softwoods	155		2	157	2	
Hardwoods	26		1	27	( <sup>1</sup> )	
Total	181		3	184	2	
Private:						
Softwoods	4,083		81	4,164	51	
Hardwoods	1,090		76	1,166	4	
Total	5,173		157	5,330	55	
State and private:						
Softwoods	4,238		83	4,321	53	
Hardwoods	1,116		77	1,193	4	
Total	5,354		160	5,514	57	

<sup>1</sup> Less than 0.5 thousand trees.

Table 13.--Net volume of growing stock on commercial timberland in San Miguel County by ownership class, forest type, and stand-size class, 1975

Ownership class:	Forest type	Stand-size class					All classes
		Sawtimber	Poletimber	Sapling/seedling	Nonstocked		
		Thousand cubic feet					Thousand cubic meters
State:							
	Douglas-fir	294	81	16	--	391	11
	Ponderosa pine	830	179	26	4	1,039	29
	Limber pine	64	--	--	--	64	2
	White fir	185	--	--	--	185	5
	Pinyon-juniper	9	--	10	--	19	1
	Aspen	--	--	--	--	--	--
	All types	1,382	260	52	4	1,698	48
Private:							
	Douglas-fir	9,730	2,423	720	--	12,873	365
	Ponderosa pine	30,289	6,135	995	116	37,535	1,063
	Limber pine	1,710	--	--	--	1,710	48
	White fir	7,869	--	--	--	7,869	223
	Pinyon-juniper	439	--	124	--	563	15
	Aspen	1,728	420	--	--	2,148	61
	All types	51,765	8,978	1,839	116	62,698	1,775
State and private:							
	Douglas-fir	10,024	2,504	736	--	13,264	376
	Ponderosa pine	31,119	6,314	1,021	120	38,574	1,092
	Limber pine	1,774	--	--	--	1,774	50
	White fir	8,054	--	--	--	8,054	228
	Pinyon-juniper	448	--	134	--	582	16
	Aspen	1,728	420	--	--	2,148	61
	All types	53,147	9,238	1,891	120	64,396	1,823

Table 14.--Net volume of sawtimber on commercial timberland in San Miguel County by ownership class, forest type, and stand-size class, 1975

Ownership class:	Forest type	Stand-size class				All classes
		Sawtimber	Poletimber	Sapling/seedling	Nonstocked	
State:		Thousand board feet <sup>1</sup>				
	Douglas-fir	1,060	166	70	--	1,296
	Ponderosa pine	3,129	343	91	16	3,579
	Limber pine	257	--	--	--	257
	White fir	611	--	--	--	611
	Pinyon-juniper	34	--	--	--	34
	Aspen	--	--	--	--	--
	All types	5,091	509	161	16	5,777
Private:	Douglas-fir	35,227	5,147	3,086	--	43,460
	Ponderosa pine	111,791	12,012	3,332	417	127,552
	Limber pine	6,822	--	--	--	6,822
	White fir	26,106	--	--	--	26,106
	Pinyon-juniper	1,610	--	--	--	1,610
	Aspen	6,511	--	--	--	6,511
		All types	188,067	17,159	6,418	417
State and private:	Douglas-fir	36,287	5,313	3,156	--	44,756
	Ponderosa pine	114,920	12,355	3,423	433	131,131
	Limber pine	7,079	--	--	--	7,079
	White fir	26,717	--	--	--	26,717
	Pinyon-juniper	1,644	--	--	--	1,644
	Aspen	6,511	--	--	--	6,511
		All types	193,158	17,668	6,579	433

<sup>1</sup>International 1/4-inch rule.

Table 15.--Net volume of growing stock on commercial timberland in San Miguel County by species and diameter class; State and private, 1975

Species	Diameter class (inches at breast height)															
	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0- 30.9	31.0- 32.9	33.0- 34.9	All classes
	Thousand cubic feet															
Douglas-fir	974	1,279	2,125	1,722	1,502	1,291	581	591	193	190	172	--	116	10,736		
Ponderosa pine	3,365	6,858	7,683	6,818	6,080	2,998	2,266	456	670	508	295	--	139	38,136		
Limber pine	199	60	121	201	39	471	260	218	134	71	64	--	--	1,838		
Subalpine fir	89	119	--	89	--	--	--	71	--	--	--	--	--	368		
White fir	452	1,093	980	1,063	682	961	914	750	430	122	94	110	184	7,835		
Engelmann spruce	42	72	140	--	249	77	203	31	53	146	--	--	--	1,013		
Pinyon/juniper	5	88	28	--	--	--	--	--	--	--	--	--	--	121		
Total softwoods	5,126	9,569	11,077	9,893	8,552	5,798	4,224	2,117	1,480	1,037	625	110	439	60,047		
Aspen	1,631	843	658	380	383	229	84	40	--	--	--	--	--	4,248		
Other hardwoods	23	78	--	--	--	--	--	--	--	--	--	--	--	101		
Total hardwoods	1,654	921	658	380	383	229	84	40	--	--	--	--	--	4,349		
All species	6,780	10,490	11,735	10,273	8,935	6,027	4,308	2,157	1,480	1,037	625	110	439	64,396		

Table 16.--Net volume of sawtimber on commercial timberland in San Miguel County by species and diameter class; State and private, 1975

Species	Diameter class (inches at breast height)															
	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 22.9	23.0- 24.9	25.0- 26.9	27.0- 28.9	29.0- 30.9	31.0- 32.9	33.0- 34.9	35.0- 36.9	37.0- 38.9	All classes
	Thousand board feet, International 1/4-inch rule															
Douglas-fir	6,930	7,356	7,172	6,644	3,151	3,279	1,093	1,089	994	--	678	38,386				
Ponderosa pine	26,495	31,570	32,216	16,978	13,465	2,759	4,075	3,111	1,813	--	847	133,329				
Limber pine	399	806	179	2,343	1,316	1,134	719	389	360	--	--	7,645				
Subalpine fir	--	438	--	--	--	362	--	--	--	--	--	800				
White fir	3,870	4,688	3,123	4,343	4,037	3,171	1,726	478	369	430	729	26,964				
Engelmann spruce	610	--	1,279	400	1,052	159	274	759	--	--	--	4,533				
Pinyon/juniper	84	--	--	--	--	--	--	--	--	--	--	84				
Total softwoods	38,388	44,858	43,969	30,708	23,021	10,864	7,887	5,826	3,536	430	2,254	211,741				
Aspen	0	1,997	2,130	1,287	464	219	--	--	--	--	--	6,097				
Other hardwoods	0	--	--	--	--	--	--	--	--	--	--	--				
Total hardwoods	0	1,997	2,130	1,287	464	219	--	--	--	--	--	6,097				
All species	38,388	46,855	46,099	31,995	23,485	11,083	7,887	5,826	3,536	430	2,254	217,838				



Table 17.--Net volume of growing stock and sawtimber on commercial timberland in San Miguel County by ownership class and species, 1928

Ownership class:	Species									
	Ponderosa: Douglas-fir:	Limber pine:	Subalpine: fir:	White fir: spruce:	Pinyon/ juniper:	Total: softwoods:	Aspen:	Other: hardwoods:	Total: hardwoods:	All species
GROWING STOCK										
Thousand cubic feet										
State	267	1,033	62	13	212	21	7	1,615	80	83
Private	10,469	37,103	1,776	355	7,623	992	114	58,432	4,168	4,266
Total	10,736	38,136	1,838	368	7,835	1,013	121	60,047	4,248	4,349
GROWING STOCK										
Thousand cubic meters										
State	8	29	2	(1)	6	1	(1)	46	2	2
Private	296	1,051	50	10	216	28	3	1,654	118	121
Total	304	1,080	52	10	222	29	3	1,700	120	123
SAWTIMBER										
Thousand board feet, International 1/4-inch rule										
State	937	3,654	257	29	732	91	3	5,703	74	74
Private	37,449	129,675	7,388	771	26,232	4,442	81	206,038	6,023	6,023
Total	38,386	133,329	7,645	800	26,964	4,533	84	211,741	6,097	6,097
										217,838

Table 18.--Net volume of timber on commercial timberland in San Miguel County by class of timber, and softwoods and hardwoods; State and private, 1975

Class of timber	Softwoods	Hardwoods	All classes
Sawtimber trees:			
- - - - - Thousand cubic feet - - - - -			
Saw-log portion	41,718	1,064	42,782
Upper-stem portion	3,634	52	3,686
Total	45,352	1,116	46,468
Poletimber trees	14,695	3,233	17,928
All growing stock trees	60,047	4,349	64,396
Sound cull trees	885	432	1,317
Rotten cull trees	166	161	327
Salvable dead trees	231	26	257
All timber	61,329	4,968	66,297

Table 19.--Net volume of growing stock on commercial timberland in San Miguel County by forest type and species; State and private, 1975

Forest type	Species										All species
	Douglas-fir	Ponderosa	Limber	Subalpine	White fir	Engelmann	Pinyon	Total	Other	Total	
	pine	pine	fir	fir	fir	spruce	juniper	softwoods	hardwoods	hardwoods	
- - - - - Thousand cubic feet - - - - -											
Douglas-fir	6,579	2,375	60	--	2,611	370	--	11,995	1,246	23	1,269
Ponderosa pine	2,456	34,767	442	--	783	--	48	38,496	--	78	13,264
Limber pine	--	--	1,264	368	61	--	--	1,693	81	--	38,574
White fir	1,411	485	72	--	4,361	282	--	6,611	1,443	--	1,774
Pinyon-juniper	--	509	--	--	--	--	73	582	--	--	81
Aspen	290	--	--	--	19	361	--	670	1,478	--	1,443
All types	10,736	38,136	1,838	368	7,835	1,013	121	60,047	4,248	101	2,148
											2,148
											64,396
- - - - - Thousand cubic meters - - - - -											
All types	304	1,080	52	10	222	29	3	1,700	120	3	123
											--
											1,823

Table 20.--Net volume of sawtimber on commercial timberland in San Miguel County by forest type and species; State and private, 1975

Forest type	Species									
	Douglas-fir	Ponderosa pine	Limber pine	Subalpine fir	White fir	Engelmann spruce	Pinyon-juniper	Total softwoods	Aspen	Other hardwoods
Thousand board feet, International 1/4-inch rule										
Douglas-fir	23,644	9,433	--	--	8,375	1,844	--	43,296	1,460	--
Ponderosa pine	7,584	120,063	1,325	--	2,075	--	84	131,131	--	--
Limber pine	--	--	6,025	800	254	--	--	7,079	--	--
White fir	6,105	2,189	295	--	16,178	959	--	25,726	991	--
Pinyon-juniper	--	1,644	--	--	--	--	--	1,644	--	--
Aspen	1,053	--	--	--	82	1,730	--	2,865	3,646	--
All types	38,386	133,329	7,645	800	26,964	4,533	84	211,741	6,097	--
										217,838

Table 21.--Net annual growth of growing stock and sawtimber on commercial timberland in San Miguel County by ownership class and species, 1976

Ownership class	Species									
	Douglas-fir	Ponderosa pine	Limber pine	Subalpine fir	White fir	Engelmann spruce	Total softwoods	Aspen	Other hardwoods	All species
GROWING STOCK										
Cubic feet										
State	7,681	27,829	1,060	557	4,837	486	42,450	6,144	-254	5,890
Private	310,102	1,067,069	29,805	14,809	179,863	23,055	1,634,703	276,923	-6,748	270,175
Total	317,783	1,094,898	30,865	15,366	184,700	23,541	1,667,153	283,067	-7,002	276,065
										1,943,218
GROWING STOCK										
Cubic meters										
State	217	788	30	16	137	14	1,202	174	-7	167
Private	8,782	30,216	844	419	5,093	653	46,007	7,841	-191	9,650
Total	8,999	31,004	874	435	5,230	667	47,209	8,015	-198	7,817
										55,026
SAWTIMBER										
Board feet, International 1/4-inch rule										
State	28,123	125,822	3,576	729	11,505	2,042	171,797	-772	-1,424	169,601
Private	1,202,695	4,826,443	104,485	19,385	463,713	98,111	6,714,832	193,856	-37,840	6,870,848
Total	1,230,818	4,952,265	108,061	20,114	475,218	100,153	6,886,629	193,084	-39,264	7,040,449

Table 22.--Annual mortality of growing stock and sawtimber on commercial timberland in San Miguel County by ownership class, and softwoods and hardwoods, 1975

Species group and ownership class	:		:	
	- Cubic feet -	- Growing stock	- Cubic meters -	- Board feet <sup>1</sup> -
Softwoods:				
State	8,886	251		39,067
Private	238,711	6,760		1,037,941
Total	247,597	7,011		1,077,008
Hardwoods:				
State	654	19		3,632
Private	24,928	706		138,173
Total	25,582	725		141,805

<sup>1</sup>International 1/4-inch rule.

Table 23.--Annual mortality of growing stock and sawtimber on commercial timberland in San Miguel County by cause of death and species; State and private, 1975

Cause of death	Species					All species		
	Douglas-fir	Ponderosa pine	White fir	Aspen	Other : hardwoods	Total : hardwoods	Total	All species
GROWING STOCK								
Cubic feet								
Insects	--	--	--	--	--	--	--	--
Disease	--	--	--	18,580	--	--	18,580	18,580
Fire	24,422	181,915	--	206,337	--	--	--	206,337
Animal	--	--	--	--	--	--	--	--
Weather	--	--	21,363	--	--	--	--	21,363
Suppression	--	4,680	--	--	--	--	--	4,680
Unknown	--	--	15,217	--	7,002	--	7,002	22,219
Logging	--	--	--	--	--	--	--	--
Total	24,422	186,595	36,580	247,597	18,580	7,002	25,582	273,179
GROWING STOCK								
Cubic meters								
Insects	--	--	--	--	--	--	--	--
Disease	--	--	--	526	--	--	526	526
Fire	692	5,151	--	5,843	--	--	--	5,843
Animal	--	--	--	--	--	--	--	--
Weather	--	--	605	--	--	--	--	605
Suppression	--	133	--	--	--	--	--	133
Unknown	--	--	430	--	199	--	199	629
Logging	--	--	--	--	--	--	--	--
Total	692	5,284	1,035	7,011	526	199	725	7,736
SAWTIMBER								
Board feet, International 1/4-inch rule								
Insects	--	--	--	--	--	--	--	--
Disease	--	--	--	102,541	--	--	102,541	102,541
Fire	104,910	814,792	--	919,702	--	--	--	919,702
Animal	--	--	--	--	--	--	--	--
Weather	--	--	89,381	--	--	--	--	89,381
Suppression	--	--	--	--	--	--	--	--
Unknown	--	--	67,925	--	39,264	--	39,264	107,189
Logging	--	--	--	--	--	--	--	--
Total	104,910	814,792	157,306	1,077,008	102,541	39,264	141,805	1,218,813







Barrett, Michael K., and Dorothy G. Shupe.

1980. Forest area and timber resource statistics for San Miguel County, New Mexico, 1975. USDA For. Serv. Resour. Bull. INT-17, 23 p. Intermt. For. and Range Exp. Stn. Ogden, Utah 84401.

Presents land area, commercial timberland area, timber inventory, and growth and mortality data based on Resources Evaluation standards.

KEYWORDS: forest surveys (regional), forest area classification, stand volume.

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KEYWORDS: forest surveys (regional), forest area classification, stand volume.

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